

FIG. 1

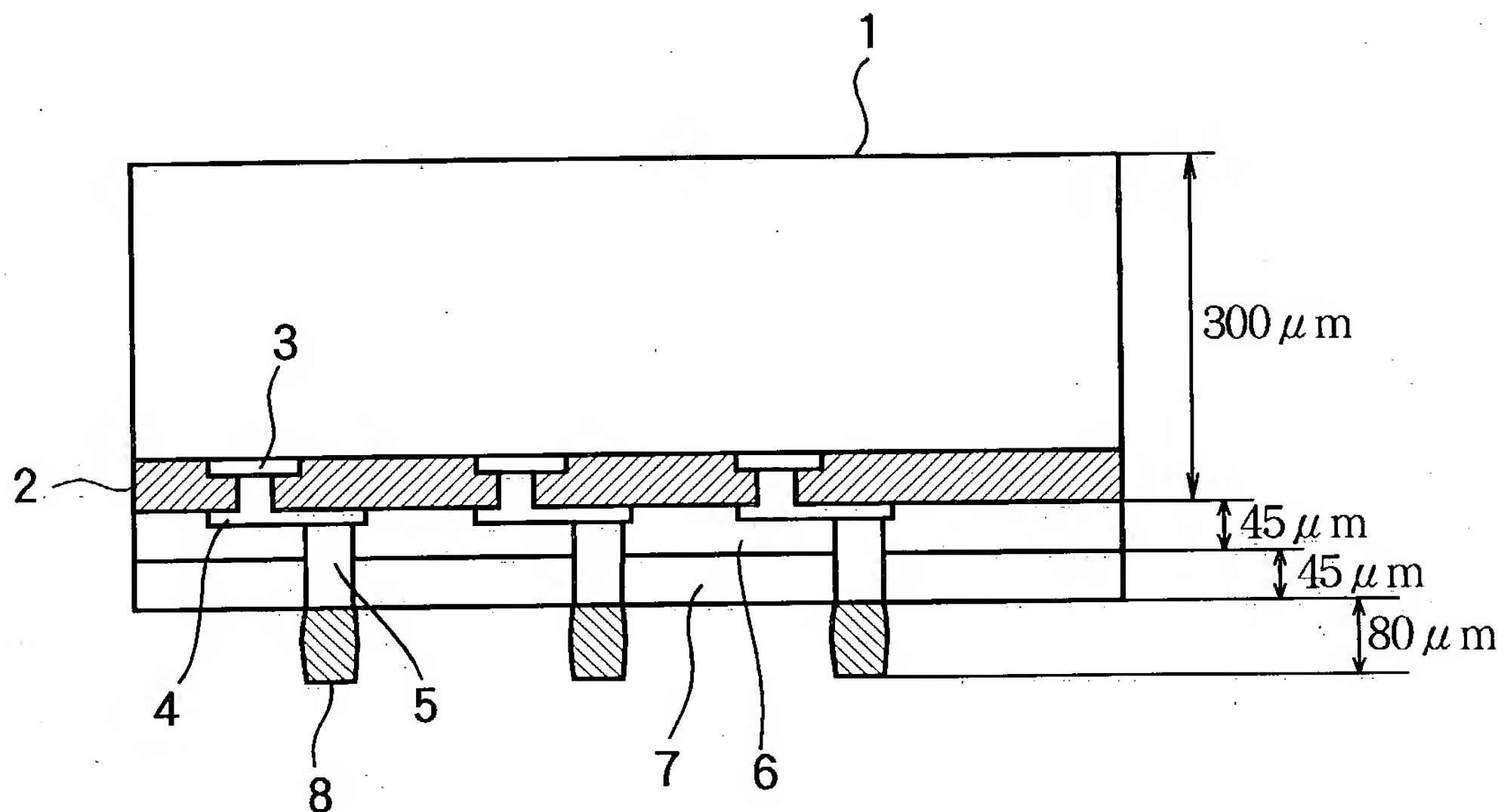
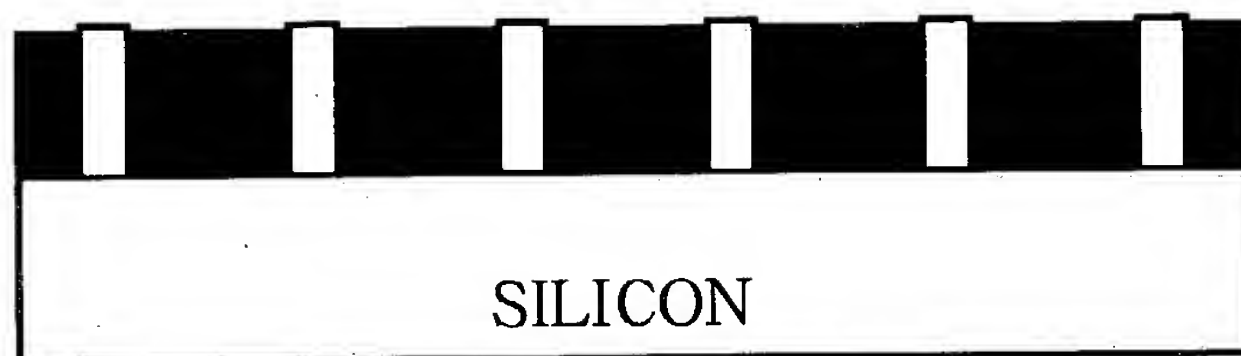


FIG. 2 (a)



↓ LAYER THICKNESS
REDUCTION BY CURE

FIG. 2 (b)

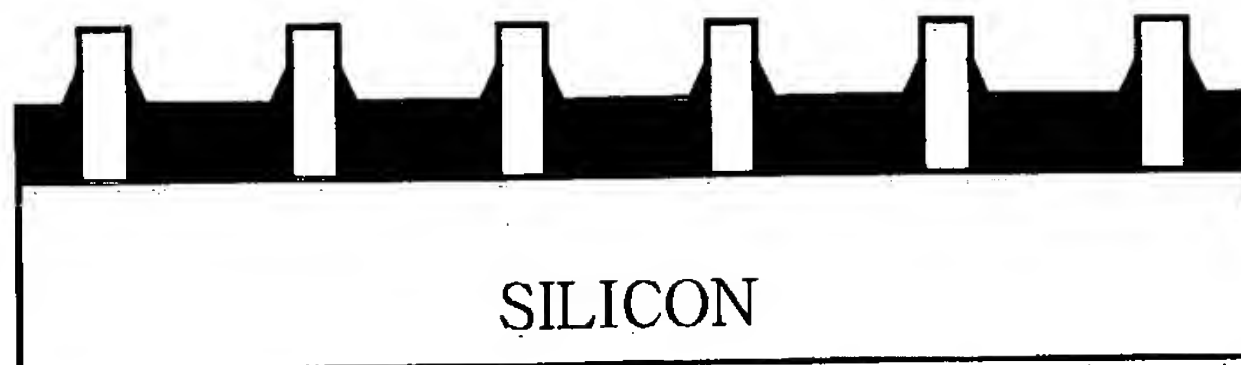


FIG. 3

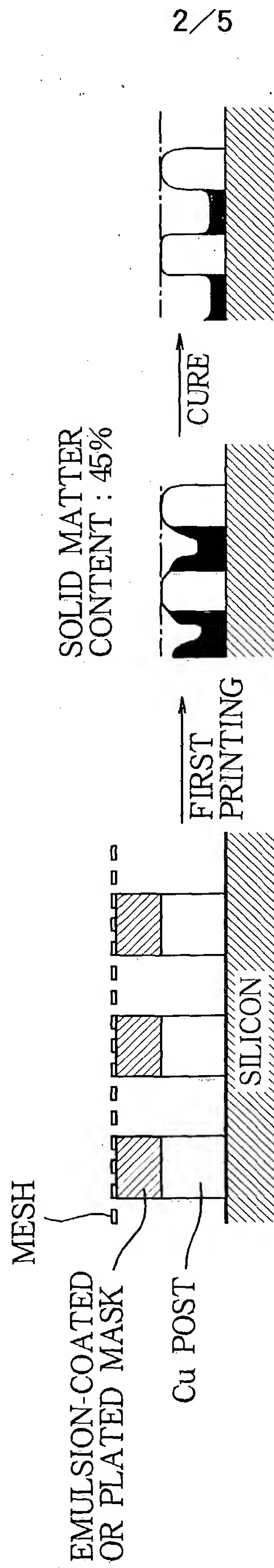


FIG.4

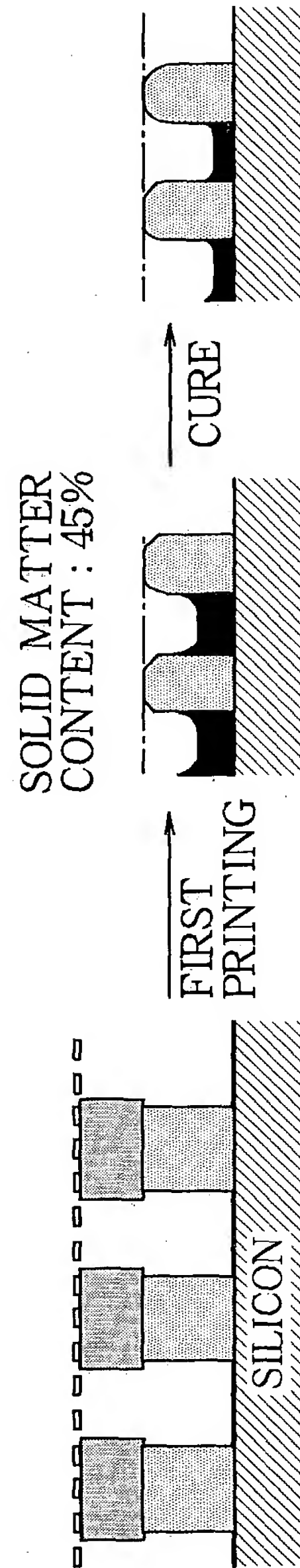


FIG. 5

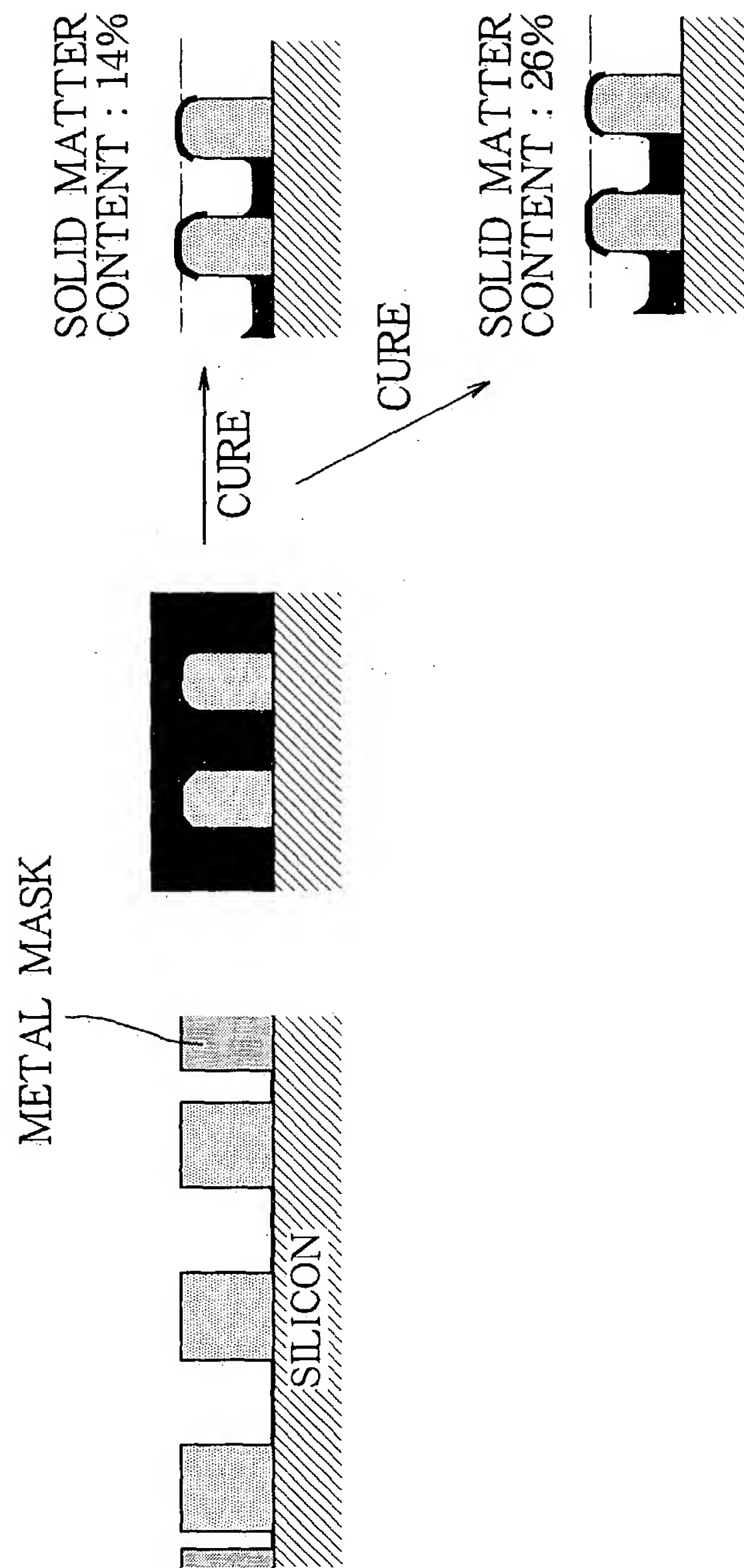


FIG.6

MATERIAL	YOUNG'S MODULUS	POISSON'S RATIO	MASS DENSITY	INSTANTANEOUS LINEAR EXPANSION COEFFICIENT	EQUIV. (Von Misers)	EQUIV. 10 cycles
	Mpa		g/mm ³	ppm	TNESIL YIELD STRESS	TNESIL YIELD STRESS
HIGH-ELASTIC RESIN	2 15600+4	0.24000+0	1.95000+3	8.50000-6	1.09900+1	0.00000+0
LOW-ELASTIC RESIN	1.20000+3	0.30000+0	1.86000+3	1.40000-5	0.00000+0	0.00000+0
Si	1.70000+5	0.26000+0	2.32800+3	2.60000-6	0.00000+0	0.00000+0
Sn-Pb (63 : 37)	2.46760+4	0.33000+0	8.30000+3	2.40000-5	4.06590+1	0.00000+0
FR-4	1.85710+4	2.50000+0	1.85000+3	1.50000-5	0.00000+0	0.00000+0
Cu	1.30000+4	0.29000+0	8.93000+3	1.65000-5	0.00000+0	0.00000+0
POLYIMIDE	3.80000+4	0.25000+0	1.85000+3	2.00000-5	0.00000+0	0.00000+0

TEMPERATURE DEPENDENCE OF INSTANTANEOUS LINEAR EXPANSION COEFFICIENT OF LOW-ELASTIC RESIN

TEMPERATURE	INSTANTANEOUS LINEAR EXPANSION COEFFICIENT
-25°C	1.40000-05
19.9999°C	1.40000-05
20°C	7.00000-05
125°C	7.00000-05

TEMPERATURE DEPENDENCE OF Sn-Pb (63 : 37) SOLDER

TEMPERATURE	YIELD STRESS	YOUNG'S MODULUS	WORK HARDENING COEFFICIENT
-65°C	4.065900+01	2.467600+04	1.000000+00
20°C	2.776712+01	2.215804+04	0.895200+00
50°C	2.181702+01	1.309339+04	4.065900+00
100°C	1.289188+01	5.539510+04	0.252390+00
150°C	3.966732+00	3.021551+03	0.128789+00